and Coronary Atherosclerosis Study (LCAS) to examine whether diet alone can achieve this LDL-C goal. Candidates were instructed in the 1987 Step I Diet (< 30% kcal as fat, < 10% kcal as SFA, < 300 mg/d cholesterol) rather than the 1993 Step II Diet (≤ 30%, < 7%, < 200 mg/d) because initiation of LCAS preceded the new NCEP guidelines. Fasting lipid values at −10 and −2 wk were available for 661 of 950 subjects screened; food records at both timepoints were available for 559 of the 661. Of the 559, 477 (85.3%) had initial LDL-C ≥ 130 mg/dL (mean, 159 mg/dL) and 75/477 (15.7%) achieved an LDL-C decrease of at least 30 mg/dL after 8 wk of diet. Mean LDL-C reduction in the 477 was 7 mg/dL. Only 8/477 (1.7%) achieved LDL-C ≤ 100 mg/dL. Food records available for 402/477 showed initial mean % kcal from fat, % kcal from SFA, and dietary cholesterol to be 30.1%, 9.4%, and 224 mg/d; 8-wk values were 26.1%, 7.6%, and 172 mg/d, with a mean weight loss of 1.6 kg. That is, on average subjects were initially adhering to the Step I Diet; at 8 wk their diet contained less fat and cholesterol and only slightly higher SFA than the Step II Diet. If these data are representative of the total population with CHD, they indicate that initial lipid-lowering therapy in patients with CHD and LDL-C ≥ 130 mg/dL should include drugs as well as diet.

935-108 Prevalence of Hypercholesterolemia and Lipid Management in Patients Presenting With Unstable Angina

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Prior reports in patients (pts) with myocardial infarction (MI) suggest that management of lipid disorders is suboptimal; comparable data are sparse for pts with unstable angina (UA). The 1994 Agency for Health Care Policy and Research UA Clinical Practice Guideline states that "it is reasonable to measure serum lipid levels within 24 hrs of admission," and that "work-ups and therapies started prior to admission or initiated in the hospital should be continued" at discharge. To assess pre-guideline physician practice compared to these recommendations, we screened all pts admitted to intensive care or telemetry units via the emergency department of an urban academic center from 10/91 through 9/92, identifying 412 consecutive non-referral pts with an initial diagnosis of UA. After excluding pts with a non-coronary precipitant cause (e.g. sepsis), we abstracted information on prior lipid status and therapy (Rx), testing during admission, and discharge Rx in 280 pts (213 UA without infarction, 67 non-ST-elevation MI). *Results:* 146 of 280 pts (52%) had known hypercholesterolemia (TC > 240) before admission; of these 63 (43%) were on Rx at admission (39 pts on lovastatin, 15 pts on gemfibrozil, 9 other). Only 44 (53%) of the 83 pts without prior lipid levels were tested during admission and only 14 pts (17%) had fasting lipid panels by day 2 when such testing is considered most reliable. Of 152 pts (55% of entire group) with hypercholesterolemia alive at discharge, only 57 (38%; 95% CI 30% to 46%) were on lipid-lowering Rx. Restricting our analysis to UA pts only (n = 213) did not materially change these results.

Conclusion: Patients admitted with UA have a high prevalence of documented hypercholesterolemia, yet many are not receiving lipid lowering agents. Our data encourages adoption of a more intensive approach to lipid evaluation and therapy during the hospitalization of patients admitted with unstable angina.

936 Cardiology Consultation: Generalist Versus Specialist Care and Telemedicine

Monday, March 25, 1996, 3:00 p.m.–5:00 p.m.
Orange County Convention Center, Hall E
Presentation Hour: 3:00 p.m.–4:00 p.m.

936-101 Telecardiology: Supporting Decision Making in Family Practice

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Following the introduction of a direct telecardiology consultation service to support decision making by 93 Family Practitioners (FP) in North London, we prospectively studied the reports of all consultations made over a period of 18 months and distributed a questionnaire asking FPs to rate the quality, define the application and consider the benefits of the service to their daily practice. 2563 consultations were made. Patient's history, clinical details, reason for consultation and electrocardiogram (ECG) were transmitted over the phone. A brief consultation with a cardiologist followed, and a full report including ECG printout was sent to the FP. The reasons for consultation as indicated by the FP were chest and atypical pain (63%), arrhythmia (18%), hypertension (13%), patient reassurance or unspecified reason (6%). Of the 334 patients presenting with symptoms suggestive of acute ischaemia-significant ST depression was present in 127 (38%) and significant ST elevation was present in 107 (32%) patients. 30 (9%) patients of this group were diagnosed as acute myocardial infarction. 128 (5%) of the 2563 patients had symptoms suggestive of arrhythmia. 1717 (67%) patients had a normal ECG or minor nonspecific changes while 846 (33%) had mild disorders which could be managed by the FP. The system allowed identification of 487 (19%) patients with urgent cardiac problems requiring immediate intervention or urgent outpatient assessment. For 2076 (81%) patients the need for referral was excluded. The most common uses were assessment of chest pain, ECG interpretation and cardiologist's opinion, and differentiating between cardiac and non-cardiac problems. The maximum benefits were rated as alteration of management-practice instead of Emergency room and saving of patients time. We conclude that telecardiac diagnosis results in early detection of heart disease, on-line assessment of suspected acute events, adequate filtering and priority grading of referrals for patients while reducing the load of unnecessary referrals for primary diagnosis.

936-102 Do Cardiologists and Non-Cardiologists Vary in Their Management of Patients With Atrial Fibrillation?

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To investigate variations in management of patients with atrial fibrillation (AF), we conducted a questionnaire survey of 214 consultant physicians (88 cardiologists and 126 non-cardiologists). Most physicians (52.3%) reported that they saw 1 to 5 patients with AF weekly. 51.9% of cardiologists and 40% of non-cardiologists considered that the main factor influencing their decision whether or not to anticoagulate was the clinical history, and the presence of heart failure, valve disease or stroke. When encountering a patient acutely admitted with new-onset AF, more cardiologists (67% vs 52%, $\chi^2 = 6.89$, $p = 0.03$) would immediately start anti-coagulant therapy, the majority favouring intravenous heparin. Most would also introduce antiarrhythmic therapy: digoxin was the commonest drug used — more cardiologists would attempt immediate pharmacological (23% vs 10% of non-cardiologists, $p = 0.04$) or later electrical (86% vs 69%, $\chi^2 = 11.7$, $p = 0.003$) cardioversion to sinus rhythm, while non-cardiologists tended to prefer 'rate cotrol' with digoxin. More cardiologists would continue antiarrhythmic therapy (especially Class III agents) (31% vs 17% of non-cardiologists, $p = 0.04$) and anticoagulants post-cardioversion to sinus rhythm (69% vs 27% of non-cardiologists, $\chi^2 = 39.8$, $p < 0.0001$), usually for 1–3 months. Decisions about anticoagulation in AF were usually related to the perceived relative risk of thromboembolism vs haemorrhage derived for each of six case management scenarios in the questionnaire. There was some general agreement between cardiologists and non-cardiologists when managing lone AF, paroxysmal AF, and AF associated with mitral valve disease or thyrotoxicosis. This survey suggests that considerable physician variation in the management of AF exists, with more cardiologists than non-cardiologists considering anticoagulation or cardioversion to sinus rhythm (and the use of antiarrhythmic and anticoagulant therapy postcardioversion). Guidelines on the management of this common arrhythmia are clearly required.

936-103 Telemedicine and Cardiac Consultations: Initial Experience in the Georgia Statewide Academic and Medical System Network

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The Georgia Statewide Academic and Medical System (GSAMS) is the world's largest and most comprehensive distance learning and telemedicine network. Currently, there are no data on utilization patterns or outcomes from telemedicine consultations (TC). To determine these patterns for adult cardiac consultations (CC), we reviewed the initial 45 month experience during which 516 TC were performed. Cardiology was the most frequently consulted subspecialty (11%) followed by neurology (10%) and dermatology (7%). The 57 adult CC involved 54 patients (mean age = 59.8 ± 16 years; 52% women). The mean duration of CC was 39.4 ± 15 compared to 33.2 ± 14 minutes ($p < 0.005$) for all other subspecialties. The percentage of inpatient consultations was greater for cardiology (53% vs. 22%, $p < 0.001$) than all other sub-specialties combined. The most common cardiac diagnoses and their frequencies were: arrhythmias (34.5%), ischemic heart disease (IHD, 25.4%), congestive heart failure (CHF, 18.2%), and valvular heart disease (VHD, 7.3%). The cardiology consultant's diagnosis was in agreement with the presumed diagnosis most often for VHD, IHD and CHF (100%, 86%, 70% respectively). In arrhythmias and noncardiac chest pain, the presumed

diagnosis was changed in 68% and 80% of the time, respectively. More CC resulted in a recommendation for tertiary care referral (33% vs. 12%, $p < 0.001$). However, in the majority of all telemedicine consultations (85.7%), tertiary care referral was not necessary. These initial findings demonstrate the utility of telemedicine in health care delivery and the frequency of cardiac consultative needs. Further, it provides a framework to better focus distance learning and continuing medical education efforts.

936-104 Many Patients Referred to Cardiologists for Preoperative Evaluation Are at Low Risk for Perioperative Cardiac Events

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To determine the appropriateness of patient (pt) referrals to a University Outpatient Cardiology Clinic for evaluation of cardiac risk prior to elective surgery, each of the 298 non-cardiac, non-vascular, non-transplant surgery pts referred to the University Medical Center Cardiology Clinic for preoperative evaluation between July 1993 and Dec 1994 were retrospectively scored according to two standard risk stratification criteria (Goldman and Eagle, each of which is based on history, physical exam and simple laboratory data). Pts with the lowest scores in each criteria have been shown to have low perioperative cardiac risk. Assuming that a referral rate of no more than 10% in low risk groups was acceptable, we tested if the referral rate in any group was greater than 10% by computing 95% confidence intervals (exact binomial method) about each rate. Adjustment was made for multiple comparisons. Results:

Pts in Lowest Risk Groups

Criteria	Major Surgery#	Minor Surgery#
Eagle (0 points)	42/99 (42%)*	47/199 (24%)*
Goldman (0–5 points)	41/99 (41%)*	105/199 (53%)*

#Major = intraperitoneal, intrathoracic or intracranial surgery; minor = all other surgery; *$P < 0.01$ vs. 10% referral rate

We conclude that at a large University teaching hospital at least 41% of pts referred for major and 24% of pts referred for minor surgery are in the lowest risk stratification groups. A substantial cost savings might occur if referring physicians used the Goldman or Eagle risk stratification criteria as a basis for deciding who to refer to a cardiologist for preoperative evaluation.